

## ➤ Appendix A

# PRIORITIZATION GUIDE

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## Purpose of the Prioritization Guide

The Thornton Vision Zero Action Plan includes a list of priority project intersections and priority corridors. While this extensive list provides direction on where safety intervention projects are likely to have the greatest impact, the city will likely need to determine which projects from this list to initiate first. This supplement to the Thornton Vision Zero Action Plan provides recommended guidance on how to prioritize the priority project list.

Projects are organized by countermeasure and prioritized by a set of criteria. A summary of the prioritization methodology is also included in this guide.

The information in this guide is simply a starting point. Additional feasibility analysis will need to be completed as part of implementation of each project, the outcomes of which may further impact the specific countermeasures applied and the order of implementation.

## Prioritization Criteria Overview

**The priority project list that emerged from the Thornton Vision Zero Action Plan were prioritized based on the following criteria.**

### Benefit-Cost Analysis

The benefit-cost analysis (BCA) measures the potential safety benefits of a project against its financial costs. Rather than favoring the cheapest projects, this strategy seeks to prioritize projects expected to save the most lives relative to their cost.

### Location-Based Criteria

#### Equity Index

The City also considers the likelihood that a project will reduce disparities in risk to traffic fatalities and serious injuries. The Equity Index identifies areas in Thornton where a disproportionate number of residents have mobility barriers, are vulnerable users, or have less access to resources. Projects in areas identified as having a higher equity need based on the DRCOG Equity Index will be prioritized.

#### Public Comment

As part of the community engagement process the public was invited during two different phases of the project to provide comments on an interactive map.

Residents indicated locations in Thornton where they have traffic safety concerns or would like to see safety improvements. Project locations that received more public comments will also be prioritized.

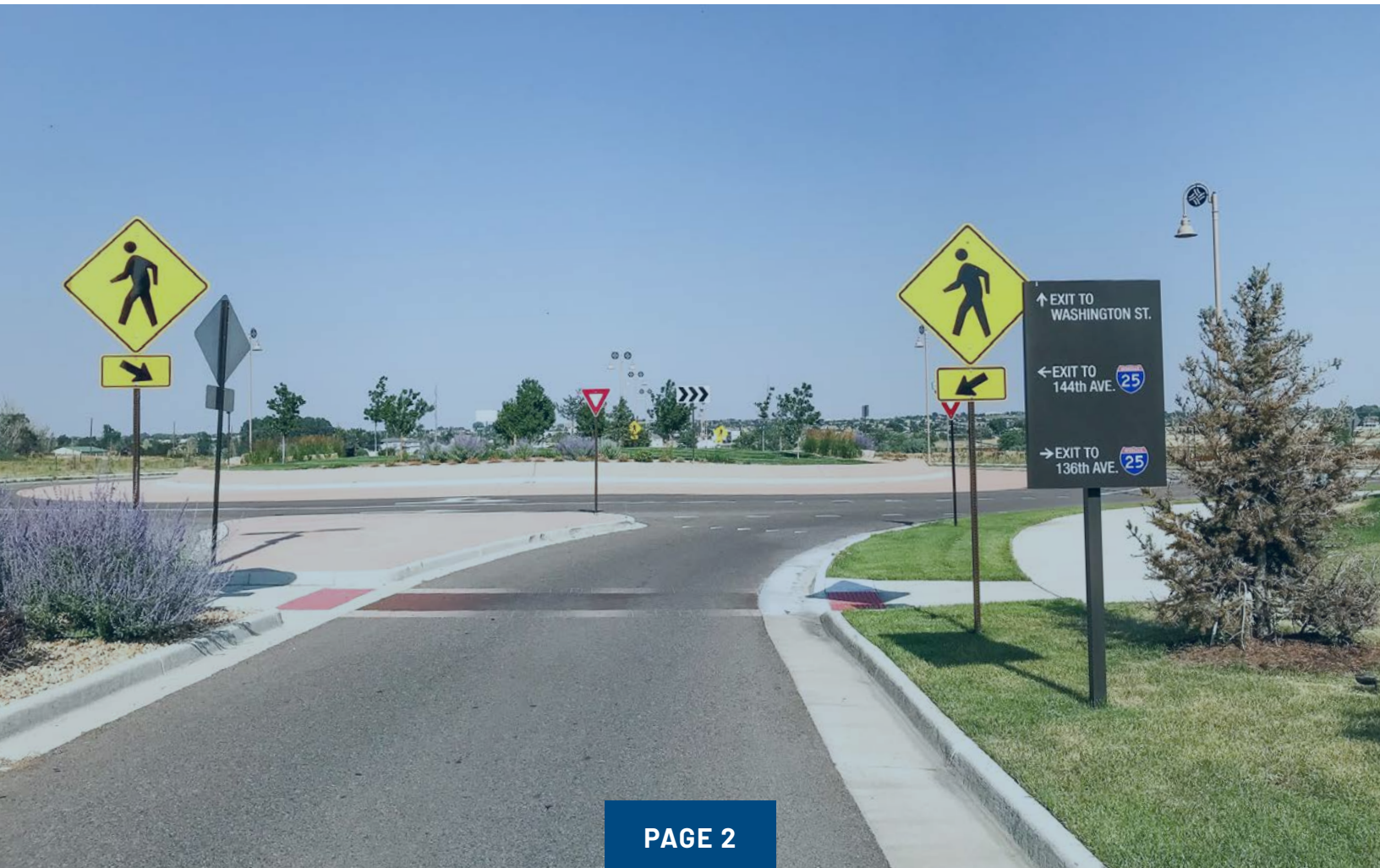
#### Vulnerable User Crash History

Pedestrians and bicyclists were nine times as likely to be injured or killed in a traffic crash in Thornton than people in a motor vehicle. Mitigating these types of crashes is a priority of the Vision Zero Action Plan. Locations with a crash history involving pedestrians and bicyclists will be prioritized.

## Intersection Projects Methodology

Safety improvement projects were first divided by intersection projects and corridor projects. **Intersection projects were prioritized using the following methodology:**

- Projects were grouped by safety intervention and organized by those with the highest to lowest benefit-to-cost ratio (BCR).
- Project locations within each safety intervention category were categorized as High BCR (10 or more), Medium BCR (between 1 and 10), and Low BCR (less than 1).
- Within each safety intervention grouping, locations of specific projects were further prioritized by three location-based criteria, as described below. A score of 0 to 100 was given for each location-based criterion, for a total possible score of up to 300. Locations with a higher score were prioritized. Location rankings based on location factors alone are shown in [Table 2](#).



## Benefit-Cost Analysis

The benefit-cost analysis (BCA) measures the potential safety benefits of a project against its financial costs. Rather than favoring the cheapest projects, this strategy seeks to prioritize projects expected to save the most lives relative to their cost.

A BCA was performed for each potential safety intervention at each priority intersection location. For each safety intervention, relevant crash modification factors (CMFs) were selected based on context and application in Thornton. Most CMFs were obtained from the U.S. Department of Transportation's (USDOT's) Crash Modification Factors Clearinghouse and all corresponding studies were at minimum 3-star quality. For countermeasures where a CMF was not available on the USDOT Crash Modification Factors Clearinghouse, the Local Road Safety Manual for California's Local Road Owners was used as a substitute given that such a resource does not exist in Colorado.

Countermeasure service life was obtained from the CMF Clearinghouse. For countermeasures with varying lengths of service life, the average length of service life was used. The cost of deaths, nonfatal disabling injuries, and property damage crashes were obtained from the most recent Colorado Department of Transportation's (CDOT's) Colorado Highway Safety Improvement Program (CHSIP).

The project costs used in the BCA are planning level cost estimates and do not reflect any necessary design, right-of-way acquisition, or labor costs.

A benefit-cost analysis for each potential safety intervention at all priority intersections locations is presented in [Table 1](#).

An itemized benefit-cost analysis by improvement by location is available in [Appendix D](#).

**Table 1. Benefit-Cost Analysis**

Safety Intervention	CMF	Number of Locations	Total Estimated Benefits	Total Estimated Project Costs	Benefit-Cost Ratio
<b>Red-Light Running Countermeasures</b>	Improve signal timing (coordination, phases, red, yellow, or operation)	39	\$63,338,100	\$42,900	1,476
<b>Adjust WALK Signal</b>	Increase length of signal phases to allow pedestrians more crossing time	13	\$12,029,880	\$14,300	841
<b>Protected Left Turn Operations</b>	Change from permitted-protected to protected on major approach	36	\$195,922,980	\$459,000	427
<b>Protected Right Turn Operations</b>	Add exclusive pedestrian phasing	1	\$252,000	\$1,100	229



Safety Intervention	CMF	Number of Locations	Total Estimated Benefits	Total Estimated Project Costs	Benefit-Cost Ratio
<b>Red-Light Running Countermeasures</b>	Add 3-inch yellow retroreflective sheeting to signal backplates	39	\$63,338,100	\$321,750	196
<b>Red-Light Running Countermeasures</b>	Install flashing beacons as advance warning	5	\$10,932,480	\$56,250	194
<b>Red-Light Running Countermeasures</b>	Increase yellow interval and all-red interval	39	\$4,222,540	\$42,900	98
<b>Leading Pedestrian Interval</b>	Implement leading pedestrian interval	15	\$4,323,260	\$56,250	76
<b>Restrict Left Turns / Signalize / Positive Offset</b>	Install raised median (approach turn & broadside)	1	\$3,797,200	\$112,500	33
<b>Restrict Left Turns / Signalize / Positive Offset</b>	Convert stop-controlled intersection to roundabout	1	\$1,680,190	\$162,000*	10
<b>Red-Light Running Countermeasures</b>	Install red light cameras	39	\$75,871,080	\$11,232,000	6.8
<b>Prohibit Right Turn on Red</b>	Prohibit right turn on red	15	\$2,059,056	\$326,250	6.3
<b>Set Back Shared Use Path</b>	Deflect bikeway approach 7-16 feet from main roadway	8	\$3,209,400	\$516,000	6.2
<b>Tighten the Turn Radius</b>	Change corner right-turn radius	17	\$4,061,460	\$1,351,500	3
<b>Install Refuge Median</b>	Install raised median / refuge islands	7	\$13,532,400	\$7,045,500	1.9
<b>Regular Maintenance of Crosswalk</b>	Install high-visibility crosswalks	41	\$2,221,520	\$1,445,250	1.5
<b>New or Improved Pedestrian Crossing</b>	Install raised median / refuge islands	8	\$4,338,000	\$8,052,000	0.5
<b>Restrict Left Turns / Signalize / Positive Offset</b>	Install a traffic signal (left turn crashes only)	4	\$1,118,520	\$2,544,000	0.4

\*Project cost estimates based on mini-roundabout.

## Location-based Criteria

The following criteria were used to prioritize locations for implementation of priority projects in Thornton. Each location received a separate percentile score for each criterion. The percentile score is a measure of how common the criterion is relative to other locations. For example, a location with three nearby bike- or pedestrian-involved crashes received a percentile score of 82, which means that 82% of locations had fewer nearby crashes and only 18% of locations had more crashes. Thus, each location received a score of 0 to 100 for each criterion, with a total possible score of 300.

➤ **High Equity Need** – Locations that fall within Census tracts with an equity score at or above the 65th percentile were considered to be in areas with high equity need. These high need locations were assigned a percentile rank based on their equity index score in relation to other high-need locations. Where project locations straddle multiple Census tracts, the median value of each tracts score was assigned to that location. Locations not in high-need areas received a score of 0 for this criterion.

➤ **Vulnerable User Crash History** – Locations were assigned a percentile rank based on the number of bike- or pedestrian-involved crashes within 250 feet during the study period (2018-2022.)

➤ **Public Comments** – Locations were assigned a percentile rank based on the number of public comments within 500 feet indicating a safety issue submitted as part of Phase 1 and Phase 2 online mapping survey.

Intersection rankings based on location-based criteria are shown in [Table 2](#).

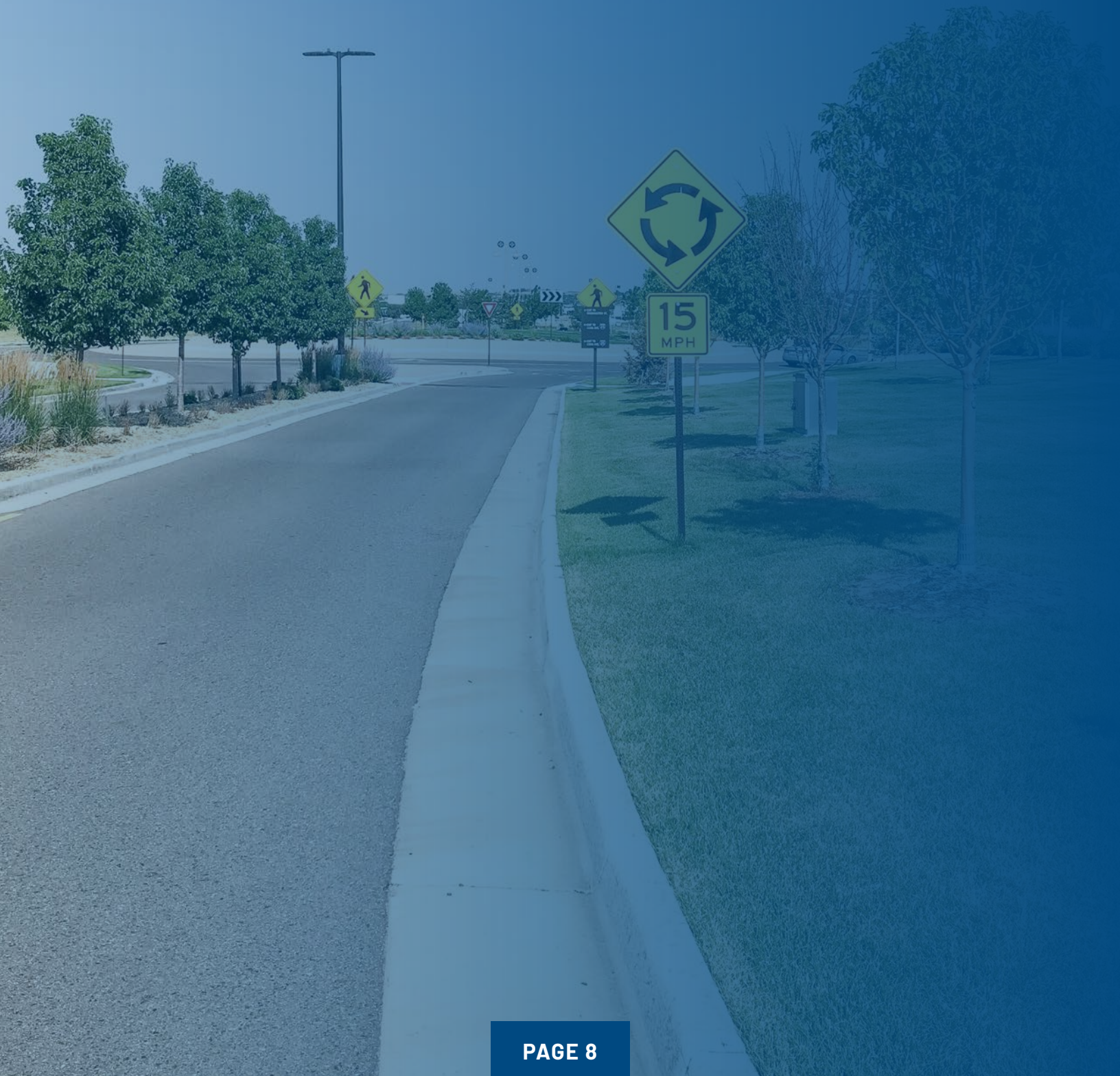
**Table 2. Locations by Prioritization Score**

Location	Ped/Bike Crash History	Equity Area	Near Public Comment	Prioritization Score
Thornton Pkwy & Washington St	94	80	94	<b>268</b>
Colorado Blvd & E 120th Ave	82	31	100	<b>214</b>
E 88th Ave & Pearl St	94	54	56	<b>204</b>
E 104th Ave & Riverdale Rd	23	96	81	<b>201</b>
E 128th Ave & Washington St	82	31	81	<b>195</b>
E 104th Ave & Washington St	82	13	99	<b>194</b>
E 120th Ave & Washington St	94	5	94	<b>194</b>
E 84th Ave & Washington St	65	52	56	<b>172</b>
E 88th Ave & Grant St	100	70	-	<b>170</b>
Colorado Blvd & E 100th Ave	82	30	56	<b>168</b>
E 88th Ave & Rainbow Ave & York St	65	46	56	<b>167</b>
E 120th Ave & Grant St	23	61	81	<b>165</b>
Eppinger Blvd & Washington St	82	80	-	<b>162</b>
Grant St & Thornton Pkwy	-	80	81	<b>160</b>



Location	Ped/Bike Crash History	Equity Area	Near Public Comment	Prioritization Score
Colorado Blvd & E 88th Ave	82	74	-	<b>156</b>
E 88th Ave & Washington St	94	54	-	<b>148</b>
Thornton Pkwy & York St	65	24	56	<b>145</b>
E 120th Ave & Pennsylvania St	23	61	56	<b>140</b>
Holly St & E 121st Ave	82	2	56	<b>140</b>
E 128th Ave & Lafayette St	23	31	81	<b>136</b>
Thornton Pkwy & Civic Center Dr	-	80	56	<b>135</b>
E 97th Ave & Grant St	-	80	56	<b>135</b>
E 98th Ave & Washington St	65	13	56	<b>133</b>
Pecos St & W 88th Ave	65	67	-	<b>131</b>
Colorado Blvd & Cypress Dr & Riverdale Rd	65	65	-	<b>130</b>
Colorado Blvd & E 112th Ave	23	19	81	<b>123</b>
Huron St & W Thornton Pkwy	23	98	-	<b>122</b>
Colorado Blvd & E 135th Dr & E 135th Pl	65	-	56	<b>121</b>
Corona St & E 88th Ave	65	54	-	<b>118</b>
W Thornton Pkwy & Pecos St	23	94	-	<b>118</b>
Conifer Rd & W 84th Ave	65	48	-	<b>113</b>
E 120th Ave & Saint Paul St	23	26	56	<b>105</b>
Colorado Blvd & E 160th Ave	23	-	81	<b>104</b>
Eppinger Blvd & Pearl St	23	80	-	<b>103</b>
Colorado Blvd & E 108th Ave	23	22	56	<b>102</b>
Huron St & W 88th Ave	23	76	-	<b>99</b>
Huron St & Planet Pl & Star Point Pl	23	76	-	<b>99</b>
Thornton Pkwy & Gale Blvd	-	98	-	<b>98</b>
E 112th Ave & Steele St	23	19	56	<b>98</b>
York St and E 151st Ave	-	-	97	<b>97</b>
E 88th Ave & Welby Rd	23	72	-	<b>96</b>
W 84th Ave & Huron St	65	28	-	<b>92</b>
Pecos St & Milky Way	23	67	-	<b>90</b>

Location	Ped/Bike Crash History	Equity Area	Near Public Comment	Prioritization Score
E 104th Ave & Fox Run Pkwy	82	-	-	82
Quebec St & E 120th Ave	23	2	56	81
E 144th Ave & Lincoln St	-	-	81	81
E 144th Ave & York St	-	-	81	81
Grant St & E 102nd Ave	-	80	-	80
E 98th Ave & Grant St	-	80	-	80
Colorado Blvd & E 136th Ave	23	-	56	79
Holly St & E 117th Ave	23	-	56	79
Sheldon Dr & Washington St	23	54	-	77
Colorado Blvd & E 115th Ave	65	7	-	72
Colorado Blvd & Woodglen Blvd	65	7	-	72
E 128th Ave & Emerson St	23	31	-	55
Pennsylvania St & Washington Center Pkwy & Washington St	23	31	-	55
Madison St & E 120th Ave	23	31	-	55
Colorado Blvd & E 121st Ave	23	31	-	55
W 84th Ave & Acoma Way	-	50	-	50
E 120th Ave & Unnamed Rd (3900 120th Ave)	-	31	-	31
Washington St & E 130th Ave	23	-	-	24
E 144th Ave & Washington St	23	-	-	24
Holly St & E 136th Ave	23	-	-	24
E 112th Ave & Cherry Dr	23	-	-	24
E 104th Ave & Irma Dr	-	13	-	13
E 120th Ave & Unnamed Rd (2500 E 120th Ave)	-	7	-	7
Colorado Blvd & E 138th Ave	-	-	-	0
E 112th Ave & Holly St	-	-	-	0
Colorado Blvd & E 470 Ramp	-	-	-	0



## Prioritized Project List by Safety Intervention

Projects are grouped by safety intervention as shown in [Table 3](#) through [Table 20](#), with safety intervention groupings ordered by the countermeasure with highest combined benefit-cost ratio (BCR) to the lowest. Within each table project locations are prioritized based on the methodology described above. This includes first ordering by BCR category (high, medium, low), then within each category individual projects are prioritized based on the location-based criteria prioritization score.

### Red-Light Running Countermeasures

**Table 3. Add 3-Inch Yellow Retroreflective Sheeting to Signal Backplates**

BCR Category	Location	BCR	Prioritization Score
High	Thornton Pkwy & Washington St	501	268
High	Colorado Blvd & E 120th Ave	665	214
High	E 88th Ave & Pearl St	366	204
High	E 104th Ave & Riverdale Rd	167	201
High	E 128th Ave & Washington St	115	195
High	E 104th Ave & Washington St	191	194
High	E 120th Ave & Washington St	156	194
High	E 84th Ave & Washington St	346	172
High	Colorado Blvd & E 100th Ave	307	168
High	E 120th Ave & Grant St	116	165
High	Eppinger Blvd & Washington St	89	162
High	Grant St & Thornton Pkwy	521	160
High	E 88th Ave & Washington St	316	148
High	Thornton Pkwy & York St	90	145
High	E 120th Ave & Pennsylvania St	196	140
High	E 128th Ave & Lafayette St	58	136
High	E 97th Ave & Grant St	121	135
High	E 98th Ave & Washington St	274	133
High	Pecos St & W 88th Ave	60	131
High	Colorado Blvd & E 112th Ave	349	123



BCR Category	Location	BCR	Prioritization Score
High	Huron St & W Thornton Pkwy	345	122
High	Corona St & E 88th Ave	129	118
High	Colorado Blvd & E 160th Ave	250	104
High	Huron St & W 88th Ave	217	99
High	Thornton Pkwy & Gale Blvd	98	98
High	E 104th Ave & Fox Run Pkwy	158	82
High	Quebec St & E 120th Ave	261	81
High	E 144th Ave & York St	123	81
High	E 144th Ave & Lincoln St	66	81
High	E 98th Ave & Grant St	115	80
High	Grant St & E 102nd Ave	37	80
High	Colorado Blvd & E 136th Ave	177	79
High	Colorado Blvd & E 115th Ave	261	72
High	Pennsylvania St & Washington Center Pkwy & Washington St	111	55
High	Colorado Blvd & E 121st Ave	79	55
High	E 120th Ave & Unnamed Rd (3900 120th Ave)	74	31
High	E 144th Ave & Washington St	62	24
High	E 104th Ave & Irma Dr	83	13
High	E 112th Ave & Holly St	27	0

**Table 4. Install Flashing Beacons as Advance Warning**

BCR Category	Location	BCR	Prioritization Score
High	E 104th Ave & Riverdale Rd	196	201
High	Colorado Blvd & E 160th Ave	293	104
High	Quebec St & E 120th Ave	306	81
High	E 144th Ave & York St	145	81
High	E 112th Ave & Holly St	32	0

**Table 5. Improve Signal Timing (Coordination, Phases, Red, Yellow, or Operation)**

BCR Category	Location	BCR	Prioritization Score
High	Thornton Pkwy & Washington St	3755	268
High	Colorado Blvd & E 120th Ave	4985	214
High	E 88th Ave & Pearl St	2743	204
High	E 104th Ave & Riverdale Rd	1252	201
High	E 128th Ave & Washington St	865	195
High	E 104th Ave & Washington St	1431	194
High	E 120th Ave & Washington St	1172	194
High	E 84th Ave & Washington St	2596	172
High	Colorado Blvd & E 100th Ave	2299	168
High	E 120th Ave & Grant St	869	165
High	Eppinger Blvd & Washington St	664	162
High	Grant St & Thornton Pkwy	3908	160
High	E 88th Ave & Washington St	2371	148
High	Thornton Pkwy & York St	675	145
High	E 120th Ave & Pennsylvania St	1468	140
High	E 128th Ave & Lafayette St	433	136
High	E 97th Ave & Grant St	908	135
High	E 98th Ave & Washington St	2056	133
High	Pecos St & W 88th Ave	451	131
High	Colorado Blvd & E 112th Ave	2620	123
High	Huron St & W Thornton Pkwy	2588	122
High	Corona St & E 88th Ave	969	118
High	Colorado Blvd & E 160th Ave	1874	104
High	Huron St & W 88th Ave	1628	99
High	Thornton Pkwy & Gale Blvd	736	98
High	E 104th Ave & Fox Run Pkwy	1185	82
High	Quebec St & E 120th Ave	1956	81
High	E 144th Ave & York St	925	81
High	E 144th Ave & Lincoln St	498	81



BCR Category	Location	BCR	Prioritization Score
High	E 98th Ave & Grant St	860	80
High	Grant St & E 102nd Ave	280	80
High	Colorado Blvd & E 136th Ave	1328	79
High	Colorado Blvd & E 115th Ave	1961	72
High	Pennsylvania St & Washington Center Pkwy & Washington St	831	55
High	Colorado Blvd & E 121st Ave	595	55
High	E 120th Ave & Unnamed Rd (3900 120th Ave)	555	31
High	E 144th Ave & Washington St	466	24
High	E 104th Ave & Irma Dr	619	13
High	E 112th Ave & Holly St	205	0

Table 6. Increase Yellow Interval and All-Red Interval

BCR Category	Location	BCR	Prioritization Score
High	Thornton Pkwy & Washington St	250	268
High	Colorado Blvd & E 120th Ave	332	214
High	E 88th Ave & Pearl St	183	204
High	E 104th Ave & Riverdale Rd	83	201
High	E 128th Ave & Washington St	58	195
High	E 104th Ave & Washington St	95	194
High	E 120th Ave & Washington St	78	194
High	E 84th Ave & Washington St	173	172
High	Colorado Blvd & E 100th Ave	153	168
High	E 120th Ave & Grant St	58	165
High	Eppinger Blvd & Washington St	44	162
High	Grant St & Thornton Pkwy	261	160
High	E 88th Ave & Washington St	158	148
High	Thornton Pkwy & York St	45	145
High	E 120th Ave & Pennsylvania St	98	140
High	E 128th Ave & Lafayette St	29	136
High	E 97th Ave & Grant St	61	135
High	E 98th Ave & Washington St	137	133
High	Pecos St & W 88th Ave	30	131
High	Colorado Blvd & E 112th Ave	175	123
High	Huron St & W Thornton Pkwy	173	122
High	Corona St & E 88th Ave	65	118
High	Colorado Blvd & E 160th Ave	125	104
High	Huron St & W 88th Ave	109	99
High	Thornton Pkwy & Gale Blvd	49	98
High	E 104th Ave & Fox Run Pkwy	79	82
High	Quebec St & E 120th Ave	130	81
High	E 144th Ave & York St	62	81
High	E 144th Ave & Lincoln St	33	81

BCR Category	Location	BCR	Prioritization Score
High	E 98th Ave & Grant St	57	80
High	Grant St & E 102nd Ave	19	80
High	Colorado Blvd & E 136th Ave	89	79
High	Colorado Blvd & E 115th Ave	131	72
High	Pennsylvania St & Washington Center Pkwy & Washington St	55	55
High	Colorado Blvd & E 121st Ave	40	55
High	E 120th Ave & Unnamed Rd (3900 120th Ave)	37	31
High	E 144th Ave & Washington St	31	24
High	E 104th Ave & Irma Dr	41	13
High	E 112th Ave & Holly St	14	0

Table 7. Install Red Light Cameras

BCR Category	Location	BCR	Prioritization Score
High	Colorado Blvd & E 120th Ave	21	100
High	Thornton Pkwy & Washington St	22	94
High	Grant St & Thornton Pkwy	22	81
High	Colorado Blvd & E 112th Ave	13	81
High	E 88th Ave & Pearl St	17	56
High	Quebec St & E 120th Ave	14	56
High	E 98th Ave & Washington St	13	56
High	Colorado Blvd & E 100th Ave	13	56
High	Huron St & W Thornton Pkwy	14	0
Medium	E 104th Ave & Washington St	3.6	99
Medium	E 120th Ave & Washington St	3.0	94
Medium	E 104th Ave & Riverdale Rd	8.4	81
Medium	Colorado Blvd & E 160th Ave	8.2	81
Medium	E 144th Ave & York St	4.5	81
Medium	E 128th Ave & Washington St	2.0	81
Medium	E 120th Ave & Grant St	1.3	81
Medium	E 128th Ave & Lafayette St	1.1	81
Medium	E 144th Ave & Lincoln St	1.1	81
Medium	E 84th Ave & Washington St	8.3	56
Medium	E 97th Ave & Grant St	7.1	56
Medium	Colorado Blvd & E 136th Ave	6.4	56
Medium	E 120th Ave & Pennsylvania St	4.7	56
Medium	Huron St & W 88th Ave	10	0
Medium	E 104th Ave & Fox Run Pkwy	6.2	0
Medium	E 98th Ave & Grant St	5.9	0
Medium	Corona St & E 88th Ave	4.0	0
Medium	Thornton Pkwy & Gale Blvd	3.6	0
Medium	Colorado Blvd & E 121st Ave	3.3	0
Medium	Eppinger Blvd & Washington St	3.3	0

BCR Category	Location	BCR	Prioritization Score
Medium	Pecos St & W 88th Ave	2.9	0
Medium	Colorado Blvd & E 115th Ave	2.6	0
Medium	E 88th Ave & Washington St	2.5	0
Medium	E 144th Ave & Washington St	2.1	0
Medium	Pennsylvania St & Washington Center Pkwy & Washington St	2.0	0
Medium	E 104th Ave & Irma Dr	1.8	0
Medium	E 120th Ave & Unnamed Rd (3900 120th Ave)	1.7	0
Medium	Grant St & E 102nd Ave	1.4	0
Medium	E 112th Ave & Holly St	1.0	0
Low	Thornton Pkwy & York St	0.2	56

## Protected Left Turn Operations

Table 8. Change from Permitted-Protected to Protected on Major Approach

BCR Category	Location	BCR	Prioritization Score
High	E 88th Ave & Pearl St	1182	204
High	E 104th Ave & Riverdale Rd	583	201
High	E 88th Ave & Grant St	242	170
High	Colorado Blvd & E 100th Ave	892	168
High	E 88th Ave & Rainbow Ave & York St	448	167
High	Eppinger Blvd & Washington St	227	162
High	Grant St & Thornton Pkwy	1497	160
High	Thornton Pkwy & York St	16	145
High	E 120th Ave & Pennsylvania St	325	140
High	E 128th Ave & Lafayette St	77	136
High	E 97th Ave & Grant St	493	135
High	Thornton Pkwy & Civic Center Dr	127	135
High	E 98th Ave & Washington St	895	133
High	Pecos St & W 88th Ave	199	131
High	Colorado Blvd & Cypress Dr & Riverdale Rd	269	130
High	Colorado Blvd & E 112th Ave	898	123
High	Huron St & W Thornton Pkwy	974	122
High	Corona St & E 88th Ave	277	118
High	W Thornton Pkwy & Pecos St	358	118
High	Conifer Rd & W 84th Ave	209	113
High	Colorado Blvd & E 160th Ave	563	104
High	Colorado Blvd & E 108th Ave	64	102
High	Huron St & W 88th Ave	665	99
High	Thornton Pkwy & Gale Blvd	247	98
High	W 84th Ave & Huron St	343	92
High	E 104th Ave & Fox Run Pkwy	428	82
High	Quebec St & E 120th Ave	987	81
High	E 144th Ave & York St	309	81
High	E 98th Ave & Grant St	407	80
High	Grant St & E 102nd Ave	96	80



BCR Category	Location	BCR	Prioritization Score
High	Sheldon Dr & Washington St	66	77
High	Madison St & E 120th Ave	477	55
High	Colorado Blvd & E 121st Ave	230	55
High	E 104th Ave & Irma Dr	125	13
High	Colorado Blvd & E 138th Ave	170	0
Medium	Colorado Blvd & Woodglen Blvd	2.6	7

**Table 9. Install Raised Median (Approach Turn and Broadside)**

BCR Category	Location	BCR	Prioritization Score
High	W 84th Ave & Acoma Way	34	50

**Table 10. Convert Stop-Controlled Intersection to Roundabout**

BCR Category	Location	BCR	Prioritization Score
High	E 112th Ave & Cherry Dr	10*	0

\*Project cost estimates based on mini-roundabout.

## Restrict Left Turns / Signalize / Positive Offset

Table 11. Install a Traffic Signal (Left Turn Crashes Only)

BCR Category	Location	BCR	Prioritization Score
Low	Holly St & E 121st Ave	0.4	140
Low	Holly St & E 117th Ave	0.5	79
Low	E 120th Ave & Unnamed Rd (2500 E 120th Ave)	0.8	7
Low	Colorado Blvd & E 470 Ramp	0.0	0

## Protected Right Turn Operations

Table 12. Add Exclusive Pedestrian Phasing

BCR Category	Location	BCR	Prioritization Score
High	Colorado Blvd & E 88th Ave	229	156

## Prohibit Right Turn on Red

Table 13. Prohibit Right Turn on Red

BCR Category	Location	BCR	Prioritization Score
High	Thornton Pkwy & Washington St	15	268
High	E 84th Ave & Washington St	11	172
High	Colorado Blvd & E 112th Ave	11	123
Medium	E 128th Ave & Washington St	3.5	195
Medium	E 88th Ave & Grant St	5.7	170
Medium	E 88th Ave & Rainbow Ave & York St	4.9	167
Medium	E 120th Ave & Grant St	3.5	165
Medium	Eppinger Blvd & Washington St	2.7	162
Medium	E 88th Ave & Washington St	10	148
Medium	E 120th Ave & Pennsylvania St	5.9	140
Medium	Conifer Rd & W 84th Ave	4.6	113
Medium	E 88th Ave & Welby Rd	1.8	96
Medium	E 104th Ave & Fox Run Pkwy	4.8	82

BCR Category	Location	BCR	Prioritization Score
Medium	Colorado Blvd & E 115th Ave	7.9	72
Medium	Pennsylvania St & Washington Center Pkwy & Washington St	3.4	55

## Leading Pedestrian Interval

Table 14. Implement Leading Pedestrian Interval

BCR Category	Location	BCR	Prioritization Score
High	Colorado Blvd & E 120th Ave	194	214
High	E 88th Ave & Pearl St	129	204
High	E 120th Ave & Washington St	69	194
High	E 104th Ave & Washington St	26	194
High	E 84th Ave & Washington St	115	172
High	E 88th Ave & Grant St	266	170
High	Colorado Blvd & E 100th Ave	36	168
High	E 120th Ave & Grant St	22	165
High	Eppinger Blvd & Washington St	16	162
High	Colorado Blvd & E 88th Ave	36	156
High	E 88th Ave & Washington St	150	148
High	E 98th Ave & Washington St	14	133
High	Colorado Blvd & Cypress Dr & Riverdale Rd	35	130
High	Washington St & E 130th Ave	22	24
High	Holly St & E 136th Ave	22	24

## Adjust WALK Signal

**Table 15. Increase Length of Signal Phases to Allow Pedestrians More Crossing Time**

BCR Category	Location	BCR	Prioritization Score
High	E 120th Ave & Washington St	632	194
High	E 104th Ave & Washington St	236	194
High	E 84th Ave & Washington St	1053	172
High	E 88th Ave & Grant St	2437	170
High	E 88th Ave & Rainbow Ave & York St	1147	167
High	E 120th Ave & Grant St	205	165
High	Eppinger Blvd & Washington St	143	162
High	Colorado Blvd & E 88th Ave	334	156
High	E 88th Ave & Washington St	1370	148
High	Thornton Pkwy & York St	1884	145
High	Corona St & E 88th Ave	958	118
High	E 104th Ave & Fox Run Pkwy	426	82
High	Colorado Blvd & E 121st Ave	111	55

## Regular Maintenance of Crosswalk

Table 16. Install High-Visibility Crosswalks

BCR Category	Location	BCR	Prioritization Score
Medium	Thornton Pkwy & Washington St	1.1	268
Medium	Colorado Blvd & E 120th Ave	4.3	214
Medium	E 88th Ave & Pearl St	2.9	204
Medium	E 120th Ave & Washington St	1.5	194
Medium	E 84th Ave & Washington St	2.6	172
Medium	E 88th Ave & Grant St	6.0	170
Medium	E 88th Ave & Rainbow Ave & York St	2.8	167
Medium	E 88th Ave & Washington St	3.4	148
Medium	Thornton Pkwy & York St	4.6	145
Medium	Corona St & E 88th Ave	2.3	118
Medium	Conifer Rd & W 84th Ave	4.1	113
Medium	E 88th Ave & Welby Rd	2.3	96
Medium	W 84th Ave & Huron St	4.5	92
Medium	E 104th Ave & Fox Run Pkwy	1.0	82
Medium	Colorado Blvd & Woodglen Blvd	4.6	72
Medium	Colorado Blvd & E 115th Ave	4.3	72
Medium	Pennsylvania St & Washington Center Pkwy & Washington St	2.3	55
Low	Colorado Blvd & E 100th Ave	0.8	29.6
Low	Colorado Blvd & Cypress Dr & Riverdale Rd	0.8	64.8
Low	E 104th Ave & Washington St	0.6	12.9
Low	E 120th Ave & Grant St	0.5	61.1
Low	Washington St & E 130th Ave	0.5	0.0
Low	Huron St & W 88th Ave	0.5	75.9
Low	E 120th Ave & Saint Paul St	0.5	25.9
Low	Eppinger Blvd & Pearl St	0.5	79.6
Low	Madison St & E 120th Ave	0.5	31.4
Low	Holly St & E 136th Ave	0.5	0.0

BCR Category	Location	BCR	Prioritization Score
Low	E 128th Ave & Washington St	0.3	31.4
Low	Eppinger Blvd & Washington St	0.3	79.6
Low	Pecos St & W 88th Ave	0.3	66.6
Low	E 98th Ave & Washington St	0.3	12.9
Low	Huron St & Planet Pl & Star Point Pl	0.3	75.9
Low	E 128th Ave & Lafayette St	0.3	31.4
Low	Colorado Blvd & E 108th Ave	0.3	22.2
Low	Colorado Blvd & E 121st Ave	0.3	31.4
Low	Colorado Blvd & E 112th Ave	0.0	18.5
Low	Colorado Blvd & E 136th Ave	0.0	0.0
Low	E 112th Ave & Steele St	0.0	18.5
Low	Pecos St & Milky Way	0.0	66.6
Low	E 120th Ave & Pennsylvania St	0.0	61.1
Low	Sheldon Dr & Washington St	0.0	53.7



## Tighten the Turn Radius

Table 17. Change Corner Right Turn Radius

BCR Category	Location	BCR	Prioritization Score
Medium	Thornton Pkwy & Washington St	1.6	268
Medium	E 88th Ave & Pearl St	4.2	204
Medium	E 84th Ave & Washington St	3.7	172
Medium	E 88th Ave & Grant St	8.6	170
Medium	Colorado Blvd & E 100th Ave	1.2	168
Medium	E 88th Ave & Rainbow Ave & York St	4.0	167
Medium	E 88th Ave & Washington St	4.8	148
Medium	Colorado Blvd & Cypress Dr & Riverdale Rd	1.1	130
Medium	E 88th Ave & Welby Rd	3.3	96
Medium	Colorado Blvd & Woodglen Blvd	6.6	72
Medium	Colorado Blvd & E 115th Ave	6.2	72
Medium	Pennsylvania St & Washington Center Pkwy & Washington St	3.3	55
Low	E 128th Ave & Washington St	0.5	195
Low	E 120th Ave & Grant St	0.7	165
Low	Colorado Blvd & E 112th Ave	0.1	123
Low	E 128th Ave & Emerson St	0.4	55
Low	Washington St & E 130th Ave	0.7	24

## Install Refuge Median

Table 18. Install Raised Median / Refuge Islands

BCR Category	Location	BCR	Prioritization Score
Medium	E 120th Ave & Washington St	1.2	194
Medium	E 84th Ave & Washington St	2.0	172
Medium	E 88th Ave & Grant St	4.7	170
Medium	Thornton Pkwy & York St	3.6	145
Low	E 120th Ave & Grant St	0.4	165
Low	Colorado Blvd & E 88th Ave	0.6	156
Low	E 104th Ave & Fox Run Pkwy	0.8	82

## New or Improved Pedestrian Crossing

Table 19. Install Raised Median / Refuge Islands

BCR Category	Location	BCR	Prioritization Score
Medium	Conifer Rd & W 84th Ave	3.2	113
Low	Colorado Blvd & E 135th Dr & E 135th Pl	0.6	121
Low	Huron St & Planet Pl & Star Point Pl	0.2	99
Low	York St and E 151st Ave	0	97
Low	Pecos St & Milky Way	0	90
Low	Holly St & E 117th Ave	0	79
Low	E 128th Ave & Emerson St	0.2	55
Low	E 120th Ave & Unnamed Rd (2500 E 120th Ave)	0	7

## Set Back Shared Use Path

Table 20. Deflect Bikeway Approach 7-16 Feet from Main Roadway

BCR Category	Location	BCR	Prioritization Score
<b>High</b>	Pennsylvania St & Washington Center Pkwy & Washington St	28	55
<b>Medium</b>	Holly St & E 121st Ave	7.1	140
<b>Medium</b>	E 120th Ave & Saint Paul St	6.2	105
<b>Medium</b>	Huron St & Planet Pl & Star Point Pl	3.3	99
<b>Medium</b>	E 128th Ave & Emerson St	3.3	55
<b>Low</b>	E 112th Ave & Steele St	0.5	98
<b>Low</b>	Pecos St & Milky Way	0.5	90
<b>Low</b>	Holly St & E 117th Ave	0.5	79

## Corridor Projects Methodology

Corridor projects were not further prioritized beyond identifying the top seven speed management corridors and top seven access management/pedestrian crossing corridors as described in the Vision Zero Action Plan. A BCA could not be calculated for corridor projects given too many unknowns with the specific safety interventions that will be considered along corridor projects. A recommended prioritization based on the five-year (2018-2022) crashes per mile can be found in [Table 21](#).

## Prioritized Corridors for Speed and Access Management

This table presents corridors identified for speed and/or access management based on the number of crashes per mile from 2018 to 2022.

**Table 21. Speed and Access Management Corridor Prioritization**

	Corridor	From	To	Crashes / Mile (2018-2022)	Severe Injury & Fatal Crashes / Mile
<b>Speed Management</b>	84th Ave	Huron St	Washington St	<b>275</b>	<b>7</b>
	88th Ave	I-25	Colorado Blvd	<b>146</b>	<b>5</b>
	Colorado Blvd	100th Ave	121st Ave	<b>156</b>	<b>8</b>
	E 120th Ave	I-25	Colorado Blvd	<b>202</b>	<b>3</b>
	Washington St	84th Ave	98th Ave	<b>225</b>	<b>5</b>
	Washington St	120th Ave	130th Ave	<b>141</b>	<b>2</b>
	Washington St	144th Ave	146th Ave	<b>90</b>	<b>0</b>
<b>Access Management</b>	Colorado Blvd	100th Ave	121st Ave	<b>156</b>	<b>8</b>
	E 104th Ave	Washington St	Irma Dr	<b>212</b>	<b>7</b>
	Washington St	84th Ave	Thornton Pkwy	<b>223</b>	<b>5</b>
	Huron St	88th Ave	97th Ave	<b>150</b>	<b>2</b>
	88th Ave	Grant St	Corona St	<b>403</b>	<b>14</b>
	88th Ave	York St	Devonshire St	<b>151</b>	<b>8</b>
	84th Ave	Huron St	I-25	<b>297</b>	<b>8</b>

